January 18, 2019

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW Room TWA325
Washington, DC 20554

Re: Office of Engineering and Technology and Wireless Telecommunications Bureau Seek Comment on 5GAA Petition for Waiver to Allow Deployment of Cellular Vehicle-To-Everything (C-V2X) Technology in the 5.9 GHz Band (GN Docket No. 18-357)

Dear Ms. Dortch,

The Institute of Transportation Engineers (ITE) is pleased to provide comments to the FCC regarding Docket 18-357, 5GAA Petition for Waiver to Allow Deployment of Cellular Vehicle-To-Everything (C-V2X) Technology in the 5.9 GHz Band.

ITE is an international membership association of transportation professionals who work to improve mobility and safety for all transportation system users and help build smart and livable communities. Founded in 1930, ITE is a community of more than 15,000 transportation professionals, including transportation engineers, transportation planners, consultants, educators, technologists, and researchers, who network through meetings, seminars, and publications.

ITE believes strongly that the development of solutions and technology such as connected and automated vehicles (CAVs) are an important element in achieving "Vision Zero" - an international movement to end fatalities on our roadways. A key component toward meeting that goal is enabling Vehicle-to-Everything ("V2X") communications, including those technologies and services using Dedicated Short-Range Communications ("DSRC") for "trusted" communications.

Deployment Is Underway

A strong government role will be critical to ensure that the deployment of CAV improves the quality of life for all citizens. Governments can also play a key role in working with the private sector to facilitate deployment and remove regulatory barriers to the widespread deployment of **proven** technologies. To date, DSRC is not only proven technology, but it is being deployed nationwide. As noted in U.S. DOT's "Preparing for the Future of Transportation, Automated Vehicles 3.0," throughout the nation there are over 70 active deployments of V2I communications utilizing the 5.9 GHz band. U.S. DOT currently estimates that by the end of 2018, over 18,000 vehicles will be deployed with aftermarket V2X communications devices and over 1,000 infrastructure V2I devices will be installed at the roadside. Furthermore, all seven channels in the 5.9 GHz band are actively utilized in these deployments.

An effort led by State and local public-sector transportation infrastructure owner operators is the Signal Phase and Timing (SPaT) Challenge. This initiative has plans to deploy a DSRC-based V2X communications infrastructure with SPaT broadcasts in at least one corridor in each of the 50 States by January 2020. There are over 200 infrastructure communications devices already deployed with over 2,100 planned by 2020 under this initiative in 26 States and 45 cities with a total investment of over $38

million. The SPaT message is designed to enhance both safety and efficiency of traffic movements at intersections.

We Need Interoperability

Given the significant number of existing and planned DSRC-based infrastructure deployments, there are tax-payer funded implications to changing utilization parameters for the upper 20MHz of the band (and associated Channels 182 and 184 as currently assigned in the specification). Many of these deployments are currently using all 7 channels, and a decision to now give a portion to a non-compatible technology in the band would result in government agencies (federal, state, and local) having to spend more public-sector money to deploy new technology.

While we appreciate that C-V2X is based around an evolutionary migration to 5G, we strongly urge the 5GAA and others currently developing C-V2X to consider a migration/compatibility path toward the already existing and proven technology - DSRC. We believe that a future including both DSRC and C-V2X would provide the most opportunities for safety benefits to be realized, and support efforts toward universal compatibility in all V2X communications. For example, the Institute of Electrical and Electronics Engineers (IEEE) is currently preparing to launch a "Next Generation V2X" study group, and they are holding to the principals that (a) next generation devices will be able to interoperate with DSRC devices, and (b) next generation V2X represents a seamless evolution for DSRC.

Lives Are At Risk

According to the National Highway Traffic Safety Administration (NHTSA), about 100 people died each day in 2017 in the United States from motor vehicle crashes.

In 2016, the U.S. DOT proposed that DSRC be standard in all new light-duty vehicles. According to a study released by the University of Michigan Transportation Research Institute earlier this year, "the cumulative lost opportunity of not mandating DSRC now represents roughly one full year's worth of fatalities, injuries and crashes that occur on U.S. roadways that could otherwise be prevented." The study estimates that up to 8.1 million car crashes and 44,000 deaths could be prevented if the federal government mandated connected vehicle technology now, rather than waiting even three years to develop and evaluate competing technologies.

ITE believes that C-V2X technology will very likely have a promising future, and additional pilot deployments and testing should continue. But the delays in deploying DSRC caused by government inaction (or worse, government interference), are discouraging/preventing potential life-saving technology from being deployed.

Don't Make This a Technology Choice

Many industry experts are adamant that we are NOT looking at a "VHS vs Betamax" scenario. This should not be a Technology A vs Technology B debate, but instead should be a discussion of how fast can we deploy what is currently proven today, while still exploring future technological advancements.

The 5GAA assertion that "widespread implementation of C-V2X technology in the United States is not feasible today" is not based on the availability of 20 MHz in the upper 5.9 GHz spectrum - we believe it is based on the fact that testing and development are still in progress. DSRC underwent nearly 20 years of robust testing, evaluation, and pilot deployments before General Motors and Toyota made the decision to begin installing DSRC standard in several vehicle lines. The argument that DSRC is "old" technology is improperly assigned, instead it is proven/robust/reliable technology which is needed for safety.

There are many applications in a V2X scenario where cellular communications technology could be and will continue to be ideal mediums for use. In particular, those applications that don't rely on ultra low latency and high bandwidth transmission. In fact, some automakers have publicly stated their desire to utilize multiple forms of vehicle-to-cloud communications; as they do today (cellular and satellite are often found in tandem across multiple vehicle lines).

Continue the Path Forward

As we have said in other filings, ITE urges the Commission to preserve the availability of the full 5.9 GHz spectrum allocation and reserve its availability for transportation safety applications.

Specific to the existing report and order that defines use of the spectrum, ITE believes that any changes in the short term would have the effect of hitting the "reset" button and erasing all the valuable lessons learned - and significantly setting-back nationwide deployment of life-saving technology.

From an infrastructure owner/operator perspective, currently available C-V2X technology requires much of the same roadside hardware as DSRC, yet is less proven and less available because it's still being developed. We support deployment of DSRC now, remain open to additional testing of C-V2X as the development progresses, and encourage a future where DSRC and C-V2X can one day enjoy interoperability. We do not support creating a "VHS vs Betamax" scenario where only one technology can exist.

The federal government's role should be to support nationwide deployment of interoperable systems, and not put up barriers to this outcome.

Best Regards,

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International President

Institute of Transportation Engineers

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